



## Mobile & Wireless Roundup #84 (see original on [LinkedIn!](#))

By Zahid Ghadialy

Welcome to the 84th edition of this newsletter. I had a young person recently who was complaining how things were simple back in our days and how things have become so complex now. There are many things that I could say to this young man but I thought let me show him the picture below:



Some of you may surely remember how complex our computers used to be. There were so many different types of ports which meant you have to check which ports your computer supports and get a peripheral accordingly. The problem didn't end there. You had to get a compatible driver which depended on the OS or version of OS your computer supported, etc. I wouldn't call this simple by any yardstick as compared to using the USB nowadays.

While reminiscing and cherishing memories is natural, it's essential to balance it with an appreciation for the present. Sometimes people get stuck in this nostalgic trap and can't enjoy their life. Be it technology, personal, social, religious, cultural or anything else. Life is a continuous journey, and each moment contributes to our growth and resilience.

For those of you who don't know me, I am a technologist with over 25 years' experience in mobile wireless technology, currently working as an independent advisor, analyst, consultant and a trainer. This newsletter is a summary of my posts and other news that caught my attention since the last newsletter.



**New White Paper**

## Private 5G to Help Solve Existential Challenges in the Digital Transformation of Warehouses

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*This newsletter is kindly sponsored by Firecell - the Private 5G experts*

### © 6G


- Free 6G Training: Presentations and Videos from Beyond 5G International Conference 2024 in Japan ([link](#))
- Emil Björnson on LinkedIn: "Here is a short video about our new textbook: "Introduction to Multiple Antenna Communications and Reconfigurable Surfaces". The PDF is available for free..." ([link](#))

## 5G

- Ookla: 5G in Malaysia – Single Wholesale Network Driving Regional Leadership ([link](#))
- Alok Tripathi on LinkedIn: "If it rings a bell - "#5G-enabled robotic / remote-surgery / tele-surgery" - this post is for you! A 5G-enabled telesurgery "demo" from Orlando to Dubai and Orlando to Shanghai..." ([link](#))
- Indoor Positioning in 5G-Advanced: Challenges and Solution towards Centimeter-level Accuracy with Carrier Phase Enhancements ([link](#))
- Steven Tracey on LinkedIn: "...We look forward to deployable #5G network capability extending the range of telemedical interventions that can be exploited around the military medical services of the Alliance..." ([link](#))

experiment

# Remote Ultrasound Examination



Live Image  
Sound

Latency, Video, Data rate, Coverage, Availability,  
Data volume, Jitter, Signal quality

Live Image  
Sound + Video

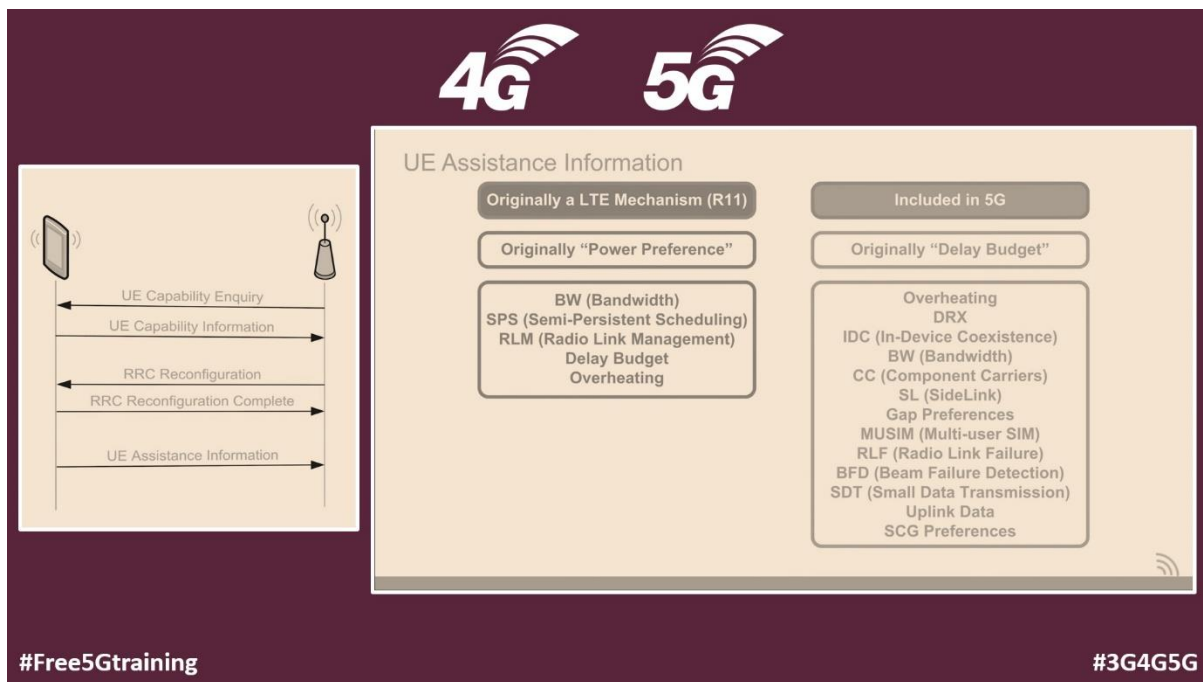
- Light Reading: China Mobile to cut depreciation bill by \$2.5 billion by extending life of 5G equipment ([link](#))
- Operator Watch Blog: 5G in Liechtenstein Gains Ground ([link](#))

## 2G/3G

- Ookla: Weighing the Pros and Cons of Legacy Network Sunsetting in MENA ([link](#))
- Light Reading: Australia could delay 3G shutdown if emergency call problem not addressed ([link](#))
- Ookla: Sunsetting Networks in Africa will be Gradual and More Selective Than in Other Regions ([link](#))

## 4G/LTE

- Nick vs Networking: Best Practices for SGW & PGW Deployment Architectures for Roaming ([link](#))
- UE Assistance Information in LTE and 5G ([link](#))



### 🕒 Open & Disaggregated Networks (including Open RAN, vRAN, etc.)

- Jinsung (Alex) Choi on LinkedIn - NVIDIA NIM: A Key Enabler for O-RAN NetGPT ([link](#))
- Heikki Almay on LinkedIn: RAN business - shrinking and increasingly fragmented ([link](#))
- Jinsung (Alex) Choi on LinkedIn: Applying NVIDIA GROOT & Omniverse to Autonomous O-RAN: Automating RIC AI Agents xApps, rApps Development ([link](#))
- Jinsung (Alex) Choi on LinkedIn: The Emergence of Agentic xApps and rApps in O-RAN RIC ([link](#))
- Jinsung (Alex) Choi on LinkedIn - Janus Project: Programmable O-RAN and E2 Agents ([link](#))

### 🕒 Telecoms Infrastructure, Small Cells, Antennas & others

- Virgin Media O2 successfully trials smart poles powered by its fixed network to boost mobile coverage across the UK ([link](#))
- Peter Clarke on Twitter: "High on the hills above Derry/Londonderry lies a rare live Vodafone UK Omnidirectional 2G only macro site. The unusual specimen provides "umbrella" 2G coverage for the city, with urban sectored solutions underneath it, while also delivering service to some rural outlying areas." ([Tweet](#) with photos)
- Dean Bubley on LinkedIn: "I attended the #FTTH24 FTTH Council Europe event in Berlin. It was new for me, aligning with my increasing emphasis on fixed as well as mobile strategy, policy and technology issues. It had c3500 attendees. I learned a lot more than I can fit into a 1300chr-maximum LI post..." ([link](#))

### 🕒 Spectrum

- Dean Bubley on LinkedIn: "It's now been 3 months since the end of #WRC23 in Dubai. Now that the dust has settled, I've written two pieces about what happened, and what's next..." ([link](#))
- Dean Bubley on LinkedIn - The 6GHz band: what's next? ([link](#))
- New Zealand's 3.3 GHz Managed Spectrum Park for local and regional providers ([link](#))

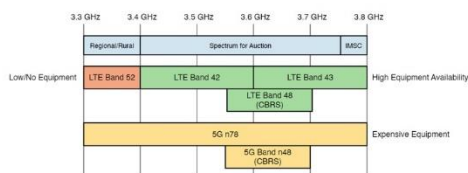
## What's a Managed Spectrum Park?

- Concept agreed in 2007 and implemented in 2010
- First spectrum available was 2580-2620 MHz
- Government-Managed right which can enter into licence agreements with local and regional providers
- Relatively strict acquisition and utilisation rules
- Expects cooperation between "park users"
  - *This doesn't always happen, and 2.6 GHz closed to new applicants in 2021 as a result.*

## 3.3 GHz Managed Spectrum Park

- Local/regional use 3 GHz spectrum is present in many markets including Australia, Europe, EU, UK and the USA where it's known as CBRS.
- 3300-3800 is 5G "New Radio" band n78
- New Zealand partitioned band into blocks, leaving 3300-3410 for local and regional use
- 3300-3340 is now a Managed Spectrum Park

## 3.3-3.4: great for 5G, not for 4G



## 4G & 5G Can Sync: Technical Details

Frame comparison	OPTION B 4G-5G compatible frame LTE config 2	OPTION A 5G early access frame current use
Pros	<ul style="list-style-type: none"><li>• Allow 4G and 5G co-exist without frequency separation / guard band or restricted emission limits</li><li>• Supports large cell (cell size up to 14.2km)</li><li>• Allow 8-16 subcarriers (bring consecutive downlink times), useful for massive MIMO beam alignment.</li></ul>	<ul style="list-style-type: none"><li>• Low uplink latency due to halved TDD link periodicity (2.3ms per uplink slot versus 5ms)</li></ul>
Cons	<ul style="list-style-type: none"><li>• A much higher uplink latency, requires Supplementary Uplink (SUL) to reduce it. However, in NSA mode, the anchor fn can provide the SUL.</li></ul>	<ul style="list-style-type: none"><li>• Can't synchronise with 4G LTE</li><li>• Cell size is smaller (radius up 19 km) but still reasonable (depends on fr. reuse)</li></ul>

**MNOs Prefer Option A**

#Free5Gtraining

#3G4G5G

## Private Networks

- MWL: Private 5G lands starring role among broadcasters ([link](#))
- Fierce Wireless: Jio boasts 5G network slices, considers 5G private network uses ([link](#))
- SDxCentral: Vendors dominate the private 5G space as telcos struggle for traction ([link](#))

## IoT / M2M / Smart Homes

- LoRa Alliance: LoRaWAN for Multi-Technology IoT Deployments ([link](#))
- RCR Wireless: Sequans gets €11m from French government for 5G eRedCap R&D ([link](#))
- Connectivity Technology Blog: Telenor's IoT Prediction Report 2024 ([link](#))

## Virtualization, Cloud & Edge

- Paul Rhodes on LinkedIn - Thursday School : One CaaS to Rule Them All! ([link](#))
- Jinsung (Alex) Choi on LinkedIn - GenAI and Cloud Native: Generating Synergy ([link](#))

## Security & Privacy

- Michal Wachowiak on LinkedIn: "GSMA has just released videos from the Security Summit at #MWC24. I especially recommend a relatively short session related to Threat Intelligence..." ([link](#)) – some more [thoughts](#) on this by Silke Holtmanns.

## AI, ML & Automation

- MWL: Apple in talks to bring Google AI to iPhones ([link](#))
- Jinsung (Alex) Choi on LinkedIn - Revolutionizing Telecom: Network Softwarization through AI-Driven Infrastructure as Code ([link](#))
- Jessica Chuang on LinkedIn: "#R19 workshop took place in RAN#100 meeting. And the RAN1/2/3 work package in R19 was decided and approved in RAN#102 meeting in December 2023. 3 topics are relevant to AI/#ML in Release 19..." ([link](#))
- Jinsung (Alex) Choi on LinkedIn: AI Data Interpreter for O-RAN Service Assurance ([link](#))
- IEEE Spectrum: Nvidia Unveils Blackwell, Its Next GPU A big boost in AI training performance, an even bigger one for AI inference ([link](#))

- Jinsung (Alex) Choi on LinkedIn: Challenges of AI Model Training and Deploying for AI-Native O-RAN ([link](#))
- Shruti Mishra on Twitter: "NVIDIA just released FREE online courses in AI. Here are 9 courses you can't afford to miss..." ([Twitter](#) thread)

### 🕒 Connected And Autonomous Vehicles (CAVs)

- The 3G4G Blog: Research Challenges for the Advancement of Vehicular Networking ([link](#))

**Bringing the vehicular future to life**  
Six key technology areas for the 6G essential infrastructure

**6G day-one focus**

- Energy efficient
- New frequency bands
- **Resilient connectivity:**  
Dependable and real-time
- **Ubiquitous Connectivity:**  
Integrated TN+NTN
- IoT expansion
- API Exposure for monetization
- ML/AI framework
- Basic network as a sensor
- Zero-touch network optimization

**6G**

- Spectrum technologies
- AI-native air interface
- Network as a sensor
- Extreme connectivity
- Cognitive, automated & specialized architectures
- Security, trust and privacy

High relevance for future vehicular networks

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#3G4G5G

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### 🕒 Smartphones, Devices, Wearables & Gadgets

- IEEE Spectrum: Researchers Turn Electronic Garbage Into Gold ([link](#))
- Vision Pro is an over-engineered "devkit" by Hugo Barra (former Head of Oculus at Meta) ([link](#))
- MWL: Orange Belgium opens digital store for refurbished phones ([link](#))

### 🕒 Satellites, HAPS, Drones, UAVs & Space

- Polar Journal: Elon Musk's Starlink is disrupting Greenland's expensive internet market ([link](#))
- Dr. Kim (Kyllesbech Larsen) on LinkedIn: "Recently, the FCC published a new, imo a really forward-thinking regulatory framework that provides supplementary space coverage (SCS)..." ([link](#))

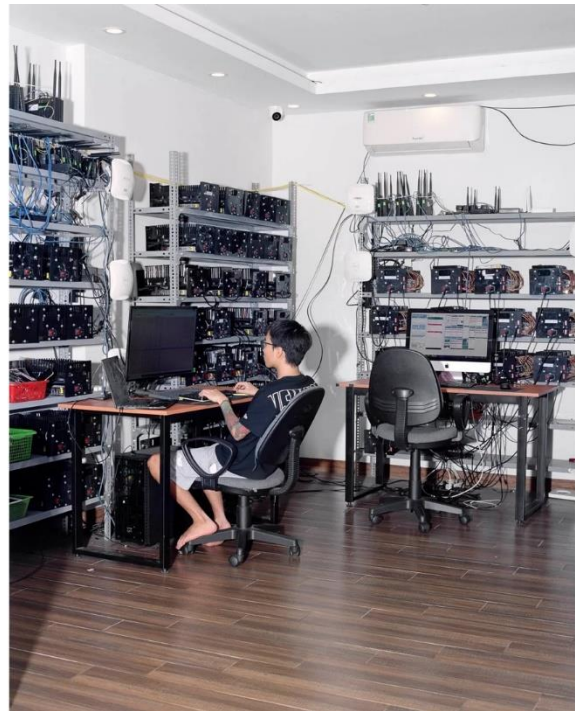
### 🕒 Wi-Fi

- Telecom TV: Wi-Fi is about to enter another dimension ([link](#))

### 🕒 Other News and Technology Stuff

- ABI Research Whitepaper: 82 Technology Trends That Will—And Will Not—Shape 2024 ([link](#))
- MWL: Singtel targets enterprises with GPUaaS offering ([link](#))
- Mobile Europe: Developers keen to use 5G APIs, operators aren't ready ([link](#))
- Ryan Jeffery on LinkedIn: The OSS/BSS-led playbook for Private Equity-based improvement of the telco industry ([link](#))

📌 **Picture of the week:** “Evolution of click farm fraud” by Douglas Mun on [Twitter](#) caught my attention. Not only because it’s easier to run the bot army but also because this is another example of removing humans from the loop 🤖.



Happy to hear your thoughts. Feel free let me know what worked, what didn't, how I can make this better, etc. Get in touch over [LinkedIn](#)!

PDF version of this and previous newsletters are available [here](#).